IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: John C. Hardwick	Art Unit	: 2626
Serial No.	: 10/046,666	Examiner	: Paul V. Harper
Filed	: January 16, 2002	Conf. No.	: 1168
Title	: SPEECH SYNTHESIZER		

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, appellant responds to the Examiner's Answer as follows.

With respect to the non-statutory-subject-matter rejection under section 101, the Examiner's Answer, without responding to the merits of appellant's prior arguments, cites MPEP section 2106 and states that claims 1 and 38 are not directed to statutory subject matter because there is no limitation indicating how the digital speech samples produced according to the processes of claims 1 and 38 are made tangible. However, as previously noted by appellant, the digital speech samples are themselves tangible.

As noted by MPEP section 2106, a "process claims must set forth a practical application ... to produce a real-world result." The production of digital speech samples is certainly a practical application of the recited process claims that produces a real-world result. As is well-known, digital speech samples have a myriad of real-world uses.

As previously noted, the digital speech samples may be used, for example, by a telephone handset that employs a digital-to-analog converter and a speaker to produce audible speech. However, to require the claims to recite the production of audible speech in order to be directed to patentable subject matter would lead to the absurd result that a handset that performs the recited techniques to produce digital speech samples and then converts the digital speech samples to audible speech would be said to be practicing patentable subject matter while a server that performs the identical techniques but either transmits the digital speech samples to a handset for audible output or stores the digital speech samples for later use would not be said to be practicing patentable subject matter.

With respect to the prior art rejection based on Griffin and Barnwell, paragraph 5 of the Examiner's answer attempts to address the appeal brief's explanation that neither Griffin nor

Barnwell describes or suggests computing first and second digital filters, or using the digital filters (in conjunction with pulse locations) to produce digital speech samples corresponding to a selected voicing state. In paragraph 5, the Examiner's answer responds to this by asserting that Barnwell shows sequential programming of filters and by further asserting, without explanation, that this is somehow combined with Griffin in the "Voiced Synthesis" block of Fig. 2. As discussed in the appeal brief, there is no support in either Griffin or Barnwell for making such a combination.

Paragraph 6 of the Examiner's answer attempts to address the appeal brief's explanation that Barnwell's generation of voicing information using regenerated spectral phase information does not involve computing first and second filters and has nothing to do with the Barnwell's statement that unvoiced frequency band components may be generated from a filter response to a random noise signal. Paragraph 6 of the Examiner's answer states that Griffin, at col. 4, lines 55-65, describes the use of voicing information. While appellant agrees that this passage of Griffin describes the use of voicing information, appellant does not agree that this passage has anything to do with computing first and second digital filters, and in no way remedies the failure of Barnwell to describe or suggest this aspect of the claims.

Paragraph 7 of the Examiner's answer attempts to address the appeal brief's explanation that, while Griffin makes use of fundamental frequency information, Griffin does not do so with respect to a filter response and, instead, describes the use of a filter response to a random noise signal to generate unvoiced frequency components. In particular, the Examiner's answer responds to this by noting that there is no mention in the claim language of a "random noise signal", and that the rejection was meant to refer to Fig. 2 of Griffin, which shows two computational blocks (which the Examiner's answer now broadly refers to as filters). Appellant agrees that the claims do not recite a random noise signal; as is clear from the appeal brief, appellant refers to a "random noise signal" because Griffin describes using the response of a filter to a random noise signal in a passage previously cited by the Examiner as showing Griffin's use of a filter.

As to the Examiner's apparently new attempt to broadly define "filter" as corresponding to any computation, appellant notes that independent claim 1 recites that first and second sets of

signal samples are produced from the first and second digital filters and the pulse locations, such that the Examiner's new definition of filter is barred by the plain language of claim 1. Similarly, independent claim 38 recites that first and second sets of signal samples are produced from the first and second impulse responses and the pulse locations.

Paragraph 8 of the Examiner's answer attempts to address the appeal brief's explanation that, if sequential frames could be said to have different filters as a result of their having different spectral information, they would also have different pulse locations and, accordingly, would not involve the use of two digital filters and *the same pulse locations* to produce first and second sets of signal samples that are combined to produce a set of digital speech samples corresponding to the selected voicing state, as recited in claim 1, or *for the subframe* corresponding to the selected voicing state, as recited in claim 38. As acknowledged by the Examiner, the claims recite that "the pulse locations" are used in producing both of the first and second sets of digital samples. By contrast, the conjectured combination of Griffin and Barnwell would use different sets of pulse locations.

For these reasons, and the reasons stated in the appeal brief, appellant submits that the final rejection should be reversed.

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Respectfully submitted,

Date: 5/5/06

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